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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/825,236

04/16/2004

Long-Kun Yu

TOP 368

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23995

7590

12/13/2005

RABIN & Berdo, PC
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WASHINGTON, DC 20005

EXAMINER

DINH, TUAN T

ART UNIT PAPER NUMBER

2841

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
10/825,236	YU ET AL.	
Examiner	Art Unit	
Tuan T. Dinh	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-9 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-9 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. ____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 5 and 7, lines 1-4, it is unclear. The phrase of "further comprising a plurality of capacitors, wherein the terminal resistor and the capacitors are alternately arranged" is not understood because only one resistor cannot be alternately arranged between the capacitors.

By applying art, the examiner assumes the phrase would be read such as - - further comprising a capacitor connected to a resistor that formed in the terminal resistor in series - -.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 rejected under 35 U.S.C. 102(b) as being anticipated by Cronin (U.S. Patent 6,128,685).

As to claim 1, Cronin discloses a motherboard (a PCB 120, column 6, line 67) as shown in figures 4-5, comprising:

- a printed circuit board (120);
- a first memory slot set (130c, 130b) disposed on the printed circuit board having first memory and second slots (130b, 130c, column 7, line 4);
- a second memory slot set (130a-130d) disposed on the printed circuit board having third and fourth memory slots (130a, 130d, column 7, line 4); and
- a terminator circuit module (23) disposed between the first and second memory slot sets, wherein the terminator circuit module (23) is electrically connected to the first and second memory slot sets through the printed circuit board.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cronin ('685) in view of Bennett et al. (U.S. Patent 5,747,893).

As to claims 2-3, Cronin does not disclose the terminator circuit module comprises a plurality of resistors and a plurality of capacitors, and the plurality of resistors and the plurality of capacitors are connected in series and alternately arranged.

Bennett et al, teaches a terminator circuit (208) as shown in figure 2 comprising resistor and capacitor connected in series and alternately arranged.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Bennett et al. employed in the PCB of Cronin in order to reduce reflect wave and noise of memory card connected to slots of a PCB.

6. Claims 4, 6, and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art (PA, figures 1-2) in view of Fan (U.S. Patent 6,665,736).

As to claims 4, 6, and 8-9, PA discloses a motherboard as shown in figures 1-2 comprising:

a circuit board (100); a chipset (102) disposed on the circuit board;

first and second memory slot sets disposed on the circuit board having first, second, third, and fourth memory slots (104-107);

a series resistance (110, figure 2) disposed between the chip set (102) and the first and second memory slot sets (104-107); a terminal resistor (108) electrically connected the memory slot sets to a terminator voltage (V_{tt}).

PA does not disclose the terminal disposed between the first and second sets.

Fan shows a motherboard (500) in figure 5A comprising a terminal resistor (Rs) disposed between SDR-DDR slots (503-504, 505-507).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Fan employ in the motherboard of PA in order to reduce noise and reflective wave of the memory formed on the motherboard.

3. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over PA in view of Fan ('736) as applied to claims 4, 6, and 8-9 above, and further in view of Bennett et al. ('893).

As to claims 5 and 7, PA and Fan do not disclose a capacitor connected to a resistor that formed in the terminal resistor in series.

Bennett et al, teaches a terminator circuit (208) as shown in figure 2 comprising resistor and capacitor connected in series and alternately arranged.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Bennett et al. employed in the PCB of PA in view of Fan in order to reduce reflect wave and noise of memory card connected to slots of a PCB.

Conclusion

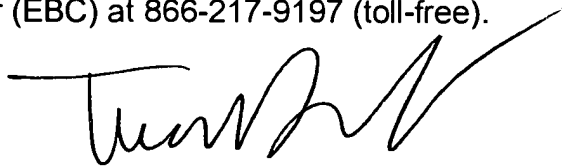
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Holman, Jr. et al. and Deneroff et al. disclose related art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tuan Dinh', with a long, sweeping flourish extending to the right.

Tuan Dinh
December 06, 2005.